

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 3, 4, 7, and 8 are pending in this application. Claims 1, 2, 5, and 6 were previously canceled without prejudice or disclaimer. Claims 3, 4, 7, and 8 are currently amended to more clearly indicate the nature of the reset occurring with the initial program step, all without the introduction of any new matter. See the specification at page 13, lines 8-10, for example.

The outstanding Office Action includes a rejection of Claims 3, 4, 7, and 8 under 35 U.S.C. §103(a) as being unpatentable over Bauer et al. (U.S. Patent No. 4,535,456, Bauer) in view of Sadre et al. (U.S. Patent No. 5,485,620, Sadre).

Initially, Applicants acknowledge with gratitude the courtesy of Examiner Maskulinski in holding a personal discussion with Applicants' representative on June 1, 2004. During this discussion, Applicants' representative presented a brief summary of the present invention noting that the monitor apparatus thereof includes, *inter alia*, a timer for measuring the actual active time of each arbitrary step being monitored and an anomalous-state monitoring unit that detects an anomalous state of a step being monitored through a comparison between the active time measured by the timer for the arbitrary step being monitored and the standard value stored in the reference-active-time memory unit for that arbitrary step. A display was noted to be provided of the program steps in such a manner that steps which have been executed are distinguished from steps which have not yet been executed and from any anomalous step. This display of differentiated steps was noted to function to effectively indicate a history or path including at least all the steps from an initial step up to the step detected to be in an anomalous state. This history or path up to the step detected to be in an anomalous state was further noted to be reset by eliminating all data indicating executed steps from the data stored in the

execution monitor unit during the initial step of each new sequential-function-chart program so that corresponding new paths/histories can be displayed when anomalous steps are detected therein.

Applicants' representative then noted that Bauer only disclosed error checking to be carried out once when the time for the entire sequence of controlling steps exceeded a certain value and not on a step basis. It was further pointed out that while column 8, lines 26-29 of Bauer call for the predetermined time being "exceeded for the run-through of a programming or cycle," nothing in Bauer equates a "cycle" to a step.

In this regard, it was pointed out that column 5, lines 45-57, of Bauer state that "[t]he time required for coursing through the entire sequencing run is defined as one control cycle."

However, the Examiner pointed to other suggestions in Bauer that he believed to fairly suggest an operation based on step times, not just overall operation time.

Applicants' representative further noted that Bauer indicates, at line 53, of col. 6 to line 2 of col. 7, that when a next step is SET the former step is RESET and that col. 8, lines 45-47 and line 68 to col. 9, line 1, indicate that both RESET and NOT SET are represented by ZERO signal level. Thus, it was suggested to be clear that Bauer has both executed steps (RESET equal ZERO) and non-executed steps (NOT SET equal ZERO) so that these steps are NOT distinguished.

It was also pointed out that, while Sadre has a MANUAL MODE for showing different button colors, these colors also do not distinguish between steps already performed and steps to be performed as the colors provided only distinguish a step that

is ready to be performed (e.g., yellow) from active color steps actually being executed (e.g., green), and any inactive steps (all colored gray, for example). While an active (e.g., green) button will change color (to e.g., red) if an error is detected, nothing is taught in Sadre that suggests a button color indicating steps that have already been performed successfully that are now inactive. Thus, even following this MANUAL MODE teaching of Sadre does not result in a history display of steps that have already been performed so that they are displayed distinct from steps yet to be performed. In this regard, there would be no way to distinguish the gray color buttons that have yet to be performed from the gray color buttons that were previously performed. The incompatibility of MANUAL MODE teachings as suggesting changes in the Bauer automated modes was also noted.

The Examiner indicated that he was not convinced by all of Applicants' arguments, but that consideration would be given if these arguments were presented with amendments to the independent claims to emphasize that the display of the sequential-function-chart program steps is done so that any step or steps which have been executed are distinguished from any step or steps which have not yet been executed, on the basis of the data stored in the execution monitor unit in order to indicate a history or path up to the step detected to be in an anomalous state, and to emphasize that this history or path up to the step detected to be in an anomalous state is reset by eliminating data indicating executed steps from the data stored in the execution monitor unit during an initial step of the sequential-function-chart program.

Turning to the present response, it is first noted that while the "Office Action Summary" indicates the outstanding Action to be "non-final" and the heading on page 2 of the

outstanding Action reads "Non-Final Rejection," paragraph 5 under the heading "Conclusion" on page 10 of the outstanding Action states "**THIS ACTION IS MADE FINAL.**" On June 29, 2004, Examiner Maskulinski was contacted by telephone and confirmed that the outstanding Action was not intentionally made **FINAL** and that the indication of a "Non-Final Rejection" in the Office Action Summary was correct.

Turning to the outstanding rejection of Claims 3, 4, 7, and 8 over Bauer in view of Sadre, it is noted that independent Claims 3 and 7 have been amended to emphasize that the display of the sequential-function-chart program steps is done so that any step or steps which have been executed are distinguished from any step or steps which have not yet been executed, on the basis of the data stored in the execution monitor unit in order to indicate a history or path up to the step detected to be in an anomalous state, and to emphasize that this history or path up to the step detected to be in an anomalous state is reset by eliminating data indicating executed steps from the data stored in the execution monitor unit during an initial step of the sequential-function-chart program.

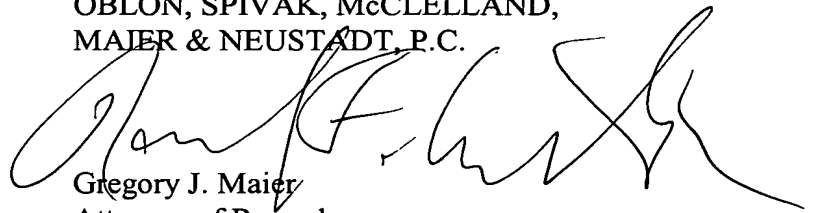
Consequently, the rejection of base independent Claims 3 and 7 is respectfully submitted to be overcome and should be withdrawn.

Moreover, as Claim 4 depends on Claim 3 while Claim 8 depends on Claim 7, these dependent claims clearly define patentably over Bauer and/or Sadre considered alone or together in any proper combination for the same reasons their respective independent base claim does. In addition, Claims 4 and 8 add further features to those of their respective independent base claim features that are also not taught or suggested by Bauer and/or Sadre considered alone or together in any proper combination. Accordingly, dependent Claims 4 and 8 are considered to patentably define there over for this reason as well.

As no other issues are believed to remain outstanding relative to this application, it is believed to be clear that this application is in condition for formal allowance and an early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

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A large, stylized handwritten signature in black ink, likely belonging to Gregory J. Maier, is written over the printed name and firm name.

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